What is claimed is:

1. A method of transferring an electrical digital signal from a first terminal on an optical fiber to a second terminal, the electrical digital signal incoming to the first terminal, the method comprising the steps of:

spreading the electrical digital signal using a spread spectrum method to produce a spread electrical signal,

modulating the spread electrical signal on a radio frequency subcarrier to produce a modulated electrical signal and

converting the modulated electrical signal to optical signals,

transmitting the optical signal on the optical fiber to the second terminal to be received in the second terminal as a received optical signal;

performing in the second terminal operations on the received optical signal, which operations are substantially inverse to those recited above.

2. The method of claim 1 comprising the further step of adding a control digital signal comprising control information to the modulated electrical signal before the step converting the modulated electric signal to optical signals.

3. A method of transferring an electrical digital signal incoming to a first terminal from the first terminal on an optical fiber to a second terminal, the method comprising the steps of, performed in the first terminal:

spread spectrum modulating the electrical digital signal to produce a spread spectrum modulated electrical signal,

modulating the spread spectrum modulated electrical signal on a subcarrier of a radio frequency to produce a modulated subcarrier signal,

using the modulated subcarrier signal for modulating a monochromatic light wave to produce a modulated light wave,

transmitting the modulated light wave on the optical fiber to the second terminal, and

the method comprising the further steps of, performed in the second terminal:

receiving the modulated light wave on the optical fiber,

converting the modulated light wave received on the optical fiber to a converted electrical signal,

demodulating the converted electrical signal at the radio frequency to produce a demodulated spread spectrum electrical signal,

spread spectrum demodulating the demodulated spread spectrum electrical signal to produce a digital electrical signal corresponding to the electrical digital signal incoming to the first terminal.

4. The method of claim 3, comprising the further step of adding, before the step of using the modulated subcarrier signal for modulating the monochromatic light wave, a control digital signal comprising control information to the modulated subcarrier signal.

5. A method of transferring an electrical digital signal from a first terminal on an optical fiber to a second terminal, the electrical digital signal incoming to the first terminal, the method comprising the steps of:

modulating a first one of a control digital signal, the control digital signal comprising control information used for controlling the electrical digital signal, and the electrical digital signal on a radio frequency subcarrier,

modulating a second one of the control digital signal and the electrical digital signal, the second one being different from the first one, using a spread-spectrum method on a different one of radio frequency subcarriers.

6. The method of claim 5, wherein in the step of modulating a first one or in the step of modulating a second one the radio frequency subcarrier used for modulating comprises a baseband.

7. The method of claim 5, wherein, in the step of modulating the first one, the first one is modulated using TDMA.

8. The method of claim 5, wherein, in the step of modulating the second one, the second one is modulated using CDMA.

9. A network comprising at least two terminals, which are connected by an optical fiber, a terminal comprising transmitting means for transmitting an optical signal on the optical fiber, the transmitting means being arranged to first spread a first electrical digital signal incoming to the terminal using a spread spectrum method to produce a spread signal, then to modulate the spread signal on a radio frequency subcarrier having a non-zero frequency to produce a modulated signal and then to convert the modulated signal to optical signals and finally to transmit the optical signals on the optical fiber.

10. The network of claim 9, wherein the non-zero frequency is a high frequency.

11. The network of claim 9, wherein a terminal further comprises receiving means for receiving the optical signal transmitted on the optical fiber, the receiving means being arranged to first convert a received optical signal to a converted electrical signal, then to demodulate the converted electrical signal to produce a demodulated electrical signal and finally to despread the demodulated electrical signal using a spread spectrum method.

12. The network of claim 9, wherein the transmitting means are arranged to add to the modulated signal a second electrical digital signal to produce an added signal, then to convert the added signal to the optical signal and finally to transmit the optical signal on the optical fiber.

13. The network of claim 9, wherein

the transmitting means are arranged to add to the modulated signal a second electrical digital signal to produce an added signal, then to convert the added signal to the optical signal and finally to transmit the optical signal on the optical fiber, and

receiving means are arranged for receiving the optical signal transmitted on the optical fiber, the receiving means being arranged to first convert a received optical signal

to a converted electrical signal, then to split the electrical signal into a low frequency signal, corresponding to the second electrical digital signal, and into a high frequency signal, which is demodulated and finally despread to produce a signal corresponding to the first electrical digital signal.

14. A network comprising a first terminal and a second terminal and an optical fiber connecting the first terminal and the second terminal, the network comprising transmitting means in the first terminal, the transmitting means comprising:

spreading means for spreading a first electrical digital signal using a spread spectrum method to produce a spread electrical signal,

modulating means connected to the spreading means for modulating the spread electrical signal on a radio frequency subcarrier having a non-zero frequency to produce a modulated electrical signal, and

converting means connected to the modulating means for modulating the modulated electrical signal on a light wave to produce an optical signal, the converting means being further connected to the optical fiber for transmitting the optical signal on the optical fiber.

15. The network of claim 14, wherein the non-zero frequency is a high frequency.

16. The network of claim 14, wherein the transmitting means further comprise:

adding means connected between the modulating means and the converting means, the adding means having a first input, a second input and an output,

the first input being connected to the modulating means,

the output being connected to the converting means,

the second input being connected to receive a second electrical digital signal which is added by the adding means to the modulated signal before the modulated signal is converted by the converting means.

17. The network of claim 14 comprising receiving means in the second terminal, the receiving means comprising:

converting means connected to the optical fiber for receiving an optical signal and for converting power of the optical signal which is received to a converted electrical signal,

demodulating means connected to the converting means for demodulating the converted electrical signal to produce a demodulated electrical signal, and

despreading means connected to the demodulating means for despreading the demodulated electrical signal using a spread spectrum method to produce a despread electrical signal corresponding to the first electrical digital signal.

18. The network of claim 17, wherein

the transmitting means further comprise adding means connected between the modulating means and the converting means, the adding means having a first input, a second input and an output,

the first input being connected to the modulating means,

the output being connected to the converting means,

the second input being connected to receive a second electrical digital signal which is added by the adding means to the modulated signal before the modulated signal is modulated by the converting means, and wherein

the receiving means further comprise splitting means connected between the converting means of the receiving means and the demodulating means, the splitting means having an input, a first output and a second output,

the input being connected to the converting means in the receiving means for receiving the converted electrical signal and the splitting means being arranged to split the converted electrical signal into a low frequency electrical signal, which corresponds to the second electrical digital signal and is provided on the first output of the splitting means, and into a high frequency electrical signal, which is provided on the second output of the splitting means, the second output being connected to the demodulation means.

19. A network comprising at least two terminals, which are connected by an optical fiber, the network comprising a control channel carried on a radio frequency subcarrier and at least one spread-spectrum data channel produced by a spectrum spreading method on a different one or on different ones respectively of radio frequency subcarriers.

20. The network of claim 19, wherein one of the radio frequency subcarriers used is a baseband.

21. The network of claim 19, wherein the control channel is TDMA-modulated.

22. The network of claim 19, wherein the at least one data channel is CDMA-modulated.

23. A network comprising at least two terminals, which are connected by an optical fiber, a first one of the at least two terminals comprising transmitting means for transmitting an optical signal on the optical fiber, the transmitting means being arranged to spread a first electrical digital signal incoming to the first one of the at least two terminals, the spreading being made using a spread spectrum method to produce a spread electrical signal, the transmitting means being further arranged to add to the spread electrical signal a second electrical digital signal modulated on a radio frequency subcarrier having a non-zero frequency to produce an added electrical signal and then to convert the added electrical signal to an optical signal and to transmit the optical signal on the optical fiber.

24. The network of claim 23 further comprising, in a second one of the at least two terminals, receiving means for receiving an optical signal transmitted on the optical fiber, the receiving means being arranged to first convert a received optical signal to a converted electrical signal, then to split the converted electrical signal into a low frequency signal, which is despread to produce a signal corresponding to the first electrical digital signal, and into a high frequency signal, which is demodulated to

produce a signal corresponding to the second electrical digital signal.

25. A network comprising a first terminal and a second terminal and an optical fiber connecting the first terminal and the second terminal, the network comprising transmitting means in the first terminal, the transmitting means comprising:

spreading means for spreading a first electrical digital signal using a spread spectrum method to produce a spread electrical signal,

adding means having a first input, a second input and an output, the first input being connected to the spreading means,

modulating means connected to the second input of the adding means for modulating a second electrical digital signal on a radio frequency subcarrier having a non-zero frequency to produce a modulated electrical signal provided to the second input of the adding means, in order to be added by the adding means to the spread electrical signal to produce an added electrical signal,

converting means connected to the output of the adding means for modulating the added electrical signal on a light wave to produce an optical signal and further connected to the optical fiber for transmitting the optical signal on the optical fiber.

26. The network of claim 25, wherein the non-zero frequency is a high frequency.

27. The network of claim 25 further comprising receiving means in the second terminal, the receiving means comprising:

converting means connected to the optical fiber for receiving an optical signal and for converting power of the optical signal received to a converted electrical signal,

splitting means having an input, a first output and a second output, the first input being connected to the converting means of the receiving means for splitting the converted electrical signal into a low frequency electrical signal provided on the first output of the splitting means and a high frequency electrical signal provided on the second output of the splitting means,

despreading means connected to the first output of the splitting means for despreading the low frequency electrical signal using a spread spectrum method to produce a despread electrical signal corresponding to the first electrical digital signal, and

demodulating means connected to the second output of the splitting means for demodulating the high frequency electrical signal into a demodulated electrical signal corresponding to the second electrical digital signal.

add C1

Add B'